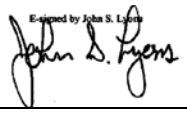
Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601
(502) 564-3999

AIR QUALITY PERMIT
Issued under 401 KAR 52:040

Permittee Name:	**Coal Synthetics, LLC**
Mailing Address:	**1100 Courthouse Plaza, SW** **Dayton, OH 45402**
Source Name:	**Coal Synthetics, LLC**
Mailing Address:	**1660 State Route 271 N** **Hawesville, KY 42348**
Source Location:	**North-Northwest of Hawesville**
Permit ID:	**S-08-089**
Agency Interest #:	**1618**
Activity ID:	**APE20080001**
Review Type:	**Minor Source, Construction / Operating**
Source ID:	**21-091-00028**
Regional Office:	**Owensboro Regional Office** **3032 Alvey Park Dr. W., Suite 700** **Owensboro, KY 42303** **(270) 687-7304**
County:	**Hancock**
Application Complete Date:	**July 18, 2008**
Issuance Date:	**December 23, 2008**
Revision Date:	**N/A**
Expiration Date:	**December 23, 2018**



John S. Lyons, Director
Division for Air Quality

Revised 05/07/07

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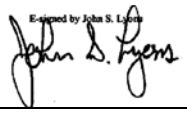

John S. Lyons, Director
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Revised 05/07/07

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agencies.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emission Point #1 (EP-1)	Description
Auxiliary Boiler (AUX)	AUX for use during start-up of the gasifiers and to provide steam when needed with low NO_X burner
Construction Date	Fall 2010
Maximum Rated Capacity	125 mmBtu/hr
Primary Fuel	Natural Gas only
Control Device	None

APPLICABLE REGULATIONS:

401 KAR 59:015, *New indirect heat exchangers*, is applicable to an emissions unit with a capacity of less than 250 mmBtu/hr which commenced on or after April 9, 1972.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

40 CFR 60 Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units,* applies to steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 mmBtu/hour). In addition, the affected boiler is subject to the related provisions of 40 CFR 60 Subpart A.

1. Operating Limitations:

a. Pursuant to 40 CFR 60.11(d), at all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected boiler including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

b. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

a. Refer to Section C.2 and 3 for compliance.

b. The source is in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source. If the source alters processes, process rates, material formulations, or any other factor that would result in increased emissions of these previously evaluated airborne toxics, or the emission of airborne toxics not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:040, Section 4.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:015 Section 4(1)(c), particulate emissions (PM/PM_{10}) shall not exceed 0.31 lb/mmBtu for the boiler.

b. Pursuant to 401 KAR 59:015 Section 4(2), visible emissions shall not exceed 20% opacity based on a six minute average.

c. Pursuant to 401 KAR 59:015 Section 5(1)(c), sulfur dioxide (SO_2) emissions shall not exceed 1.06 lb/mmBtu for the boiler.

d. Pursuant to 40 CFR 60.42b(k)(1), on and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first, no permittee that commences construction, reconstruction, or modification after February 28, 2005, that combusts natural gas shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/mmBtu) heat input or 8 percent (0.08) of the potential SO_2 emission rate (92 percent reduction) and 520 ng/J (1.2 lb/mmBtu) heat input. This standard shall apply at all times, pursuant to 40 CFR 60.45b(a).

e. Pursuant to 40 CFR 60.44b(l), no permittee that commenced construction after July 9, 1997 shall cause to be discharged into the atmosphere any gases that contain NO_X (expressed as NO_2) in excess of 86 ng/J (0.20 lb/mmBtu) heat input.

Compliance Demonstration Method:

While burning natural gas, this unit is in compliance with the PM/PM_{10} and opacity limits. Compliance with the NO_X limits is based on a 30-day rolling average basis. [40 CFR 60.44b(i)] Refer to **Subsection 3, Testing Requirements** for SO_2 and NO_X and **Subsection 4, Specific Monitoring Requirements.**

3. Testing Requirements:

a. Pursuant to 401 KAR 59:015 Section 8, the permittee shall conduct performance tests for SO_2 to demonstrate compliance with the applicable emissions standards within sixty (60)

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

b. Pursuant to 40 CFR 60.45b(b), in conducting the performance tests required under 40 CFR 60.8, the permittee shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in 40 CFR 60.8(d) applies only to the initial performance test unless otherwise specified by the Division.

c. Pursuant to 40 CFR 60.45b(c), the permittee shall conduct performance tests to determine compliance with the percent of potential SO_2 emission rate (% P_s) and the SO_2 emission rate (E_s) pursuant to 40 CFR 60.42b using the following procedure: The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO_2 standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

d. Pursuant to 40 CFR 60.45b(f), for the initial performance test required under 40 CFR 60.8, compliance with the SO_2 emission limits and percent reduction requirements under 40 CFR 60.42b is based on the average emission rates and the average percent reduction for SO_2 for the first 30 consecutive steam generating unit operating days, except as provided under 40 CFR 60.45b(d). The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Division. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

e. Pursuant to 40 CFR 60.45b(g), after the initial performance test required under 40 CFR 60.8, compliance with the SO_2 emission limits and percent reduction requirements under 40 CFR 60.42b is based on the average emission rates and the average percent reduction for SO_2 for 30 successive steam generating unit operating days, except as provided under 40 CFR 60.45b(d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for SO_2 are calculated to show compliance with the standard.

f. Pursuant to 40 CFR 60.46b(c), compliance with the NO_X emission standards under 40 CFR 60.44b shall be determined through performance testing under 40 CFR 60.46b(e) or (f), or (g) and (h), as applicable.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

a. Pursuant to 40 CFR 60.47b(b), as an alternative to operating continuous emissions monitoring system (CEMS) as required under 40 CFR 60.47b(a), the permittee may elect to determine the average SO_2 emissions and percent reduction by:

(1) A daily SO_2 emission rate, E_D, shall be determined using the procedure described in Method 6A of 40 CFR 60 appendix A and stated in ng/J (lb/mmBtu) heat input. [40 CFR 60.47b(b)(3)]

(2) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/mmBtu) for 30 successive steam generating unit operating days using equation 19–20 of Method 19 of 40 CFR 60 appendix A. [40 CFR 60.47b(b)(4)]

b. Pursuant to 40 CFR 60.48b(g), the permittee that has a heat input capacity of 73 MW (250 mmBtu/hr) or less, and that has an annual capacity factor for natural gas greater than 10 percent (0.10) shall:

(1) Comply with the provisions of 40 CFR 60.48b(b), (c), (d), (e)(2), (e)(3), and (f); or
(2) Monitor steam generating unit operating conditions and predict NO_X emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b(c).

c. The permittee of a duct burner, as described in 40 CFR 60.41b, that is subject to the NO_X standards of 40 CFR 60.44b(l) is not required to install or operate a CEMS to measure NO_X emissions.

d. The permittee described in 40 CFR 60.44b(j) or 60.44b(k) is not required to install or operate a CEMS for measuring NO_X emissions.

e. The permittee shall monitor and maintain records of the following information: the total monthly (each calendar month) boiler fuel usage.

5. Specific Recordkeeping Requirements:

a. Pursuant to 401 KAR 59:005 Section 3(2), the permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility.

b. Pursuant to 401 KAR 59:005 Section 3(4), the permittee shall maintain a file of all measurements and performance testing measurements required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.

c. Pursuant to 40 CFR 60.49b(d), the permittee shall record and maintain records of the amounts of natural gas combusted during each day and calculate the annual capacity factor for natural gas for the reporting period. The annual capacity factor is determined on a 12-

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

d. Pursuant to 40 CFR 60.49b(g), except as provided under 40 CFR 60.49b(p), the permittee subject to the NO_X standards under 40 CFR 60.44b shall maintain records of the information specified in 40 CFR 60.49b(g)(1)-(10), as applicable, for each steam generating unit operating day.

e. Pursuant to 40 CFR 60.49b(p), the permittee described in 40 CFR 60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;
(2) The number of hours of operation; and
(3) A record of the hourly steam load.

f. See Section C.2, Recordkeeping Requirements.

6. Specific Reporting Requirements:

a. The permittee shall immediately notify the Division of any occurrence when emissions of NO_X and other pollutants from the affected boiler exceed the applicable standard or limitation.

b. The permittee shall submit excess emission reports for any calendar quarter during which there are excess emissions from the affected boiler pursuant to the new source performance standard (NSPS). If there are no excess emissions during the calendar quarter, the permittee shall submit a report stating that no excess emissions occurred during the reporting period. Excess emissions are defined as any calculated emissions rate that exceeds the applicable limit.

c. The report required under 40 CFR 60 Subpart Db, shall be submitted quarterly. All reports shall be submitted and be postmarked by the 30^{th} day following the end of the reporting period.

d. Pursuant to 40 CFR 60.49b(a), the permittee shall submit notification of the date of initial startup, as provided by 40 CFR 60.7.

e. Pursuant to 40 CFR 60.49b(b), the permittee shall submit to the Division the performance test data from the initial performance test.

f. Pursuant to 40 CFR 60.49b(h), the permittee in any category listed in 40 CFR 60.49b(h)(1) or (2) is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

g. Pursuant to 40 CFR 60.49b(j), the permittee subject to the SO_2 standards under 40 CFR 60.42b shall submit reports.

h. Pursuant to 40 CFR 60.49b(k), for each affected facility subject to the compliance and performance testing requirements of 40 CFR 60.45b and the reporting requirement in 40 CFR 60.49b(j), the information specified in 40 CFR 60.49b(k)(1)-(11), as applicable, shall be reported to the Division:

i. Pursuant to 40 CFR 60.49b(q), the permittee described in 40 CFR 60.44b(j) or (k) shall submit to the Division a report containing:

(1) The annual capacity factor over the previous 12 months; and
(2) If the affected facility meets the criteria described in 40 CFR 60.44b(j), the results of any NO_X emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO_X emission test.

j. See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

None

8. Alternate Operating Scenarios:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP-2 and EP-3 Flares
for Gasification and Shell Claus Off-Gas Treatment (SCOT) Startup/Shutdown and Malfunctions; and Acid Gas Removal (AGR) CO_2 Vent
Construction Date - Fall 2010
Control Device - None

Flare #1 (FL1) Flare #2 (FL2)	Malfunction/ Shutdown Gasifier	Maximum Rated Capacity	2.59 mmBtu/hr
		Primary Fuel	Natural Gas only (this is treating syngas)
	Pilot flares	Maximum Rated Capacity	25 mmBtu/hr for each pilot flare
		Primary Fuel	Natural Gas only
	Gasifier Start-Up [1]	Maximum Rated Capacity	10 hours/yr
		Primary Fuel	Coal

[1] Assumed worst case of 20 dual starts per year and 30 minutes of flaring per start

Flare #1 (FL1A)	Gasifier Preheat NG [2]	Maximum Rated Capacity	100 mmBtu/hr (40 hours/yr)
		Primary Fuel	Natural Gas only
Flare #2 (FL2A)	Preheat SCOT [3]	Maximum Rated Capacity	4.8 mmBtu/hr (5 hours/yr)
		Primary Fuel	Natural Gas only

[2] Assumed worst case of 20 dual starts per year. 2 hours of preheat per start based on 100 mmBtu/hr Natural Gas Preheat at 1,020 Btu/scf.

[3] Assumed worst case of 20 dual starts per year. 0.25 hours of preheat per start based on 4.8 mmBtu/hr Natural Gas Preheat at 1,020 Btu/scf.

APPLICABLE REGULATIONS:

401 KAR 63:015, *Flares*, is applicable to each affected facility which means a device at the tip of a stack or other opening used for the disposal of waste gas streams by combustion after April 9, 1972.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:

The source is in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source. If the source alters processes, process rates, material formulations, or any other factor that would result in increased emissions of these previously evaluated airborne toxics, or the emission of airborne toxics not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:040, Section 4.

2. Emission Limitations:

Pursuant to 401 KAR 63:015 Section 3, visible emissions shall not exceed 20% opacity for more than three (3) minutes in any one (1) day, except as follows:

a. Pursuant to 401 KAR 50:055 Section 1(1), emissions due to shutdown or malfunctions which temporarily exceed the opacity standard shall not be deemed in violation of such standards if the requirements of 401 KAR 50:055 Sections 1(2) and 1(3) are satisfied, and the Director makes the determinations specified in 401 KAR 50:055 Section 1(4).

b. Pursuant to 401 KAR 50:055 Section 2(4), the opacity standard does not apply during periods of startup, shutdown, and as otherwise provided in the applicable standard.

Compliance Demonstration Method:

a. Compliance for EP-2 (flare #1) is demonstrated by the use of natural gas to fuel the pilot and use of the flare only during startup, shutdown, and malfunctions.

b. For compliance for EP-3 (flare #2), refer to EPA Method 9 testing and recordkeeping in **Subsection 3, Testing Requirements** and **Subsection 5, Specific Recordkeeping Requirements.**

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Testing Requirements:

For EP-3 (flare #2), the permittee shall perform an EPA Method 9 each day emissions are seen and/or the Division requests it.

4. Specific Monitoring Requirements:

a. The permittee shall install, operate, and maintain monitoring systems related to venting of gas to each flare for:

(1) The flow of process gas to the flare (SCF).

(2) For each category of syngas or other process gas that can be vented to the flare, the date, time and duration of each occurrence of venting of gas to the flare.

b. The permittee shall install, operate, and maintain monitoring systems for vent(s) to measure and record the following: the occurrence of venting of gas and the quantity of gas emitted.

c. The permittee shall maintain the records of maintenance and operational activity associated with these monitoring systems.

5. Specific Recordkeeping Requirements:

a. If visible emissions are observed, then the following additional records shall be retained:

(1) The actions taken to correct the problem, and result of the subsequent visual observation showing no visible emissions, or

(2) The results of the Reference Method 9 opacity test.

b. The permittee shall maintain a file containing the design specifications for each flare, including capacity and CO and NO_X emissions, in lbs/million Btu.

c. (1) The permittee shall keep the following operating records for each day that flaring occurs:

(i) Date and amount of gas flared;
(ii) Confirmation that established operating procedures were followed; and
(iii) Confirmation that the flare functioned properly,
i.e., a flame was present and no visible emissions were observed except as allowed by 40 CFR 60.18(f)(1).

(2) The permittee shall keep the following records for each event when gas that was not fully cleaned was flared (or gas was sent directly to the atmosphere):

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(i) Date, time and duration of the event;
(ii) Description of the event;
(iii) Estimated amount of gas flared or emitted until the situation was corrected or emissions ceased;
(iv) Corrective actions taken; and
(v) Actions taken to prevent or reduce the likelihood of future occurrences.

d. See Section C.2, Recordkeeping Requirements.

6. Specific Reporting Requirements:

See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

None

8. Alternate Operating Scenarios:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EG-1
Process Gas Streams for Gasification, Acid Gas Removal System (AGR) and Sulfur Recover Unit (SRU)
Construction Date - Fall 2010
Primary Equipment - scrubbing, syngas cooling, AGR, syngas (hydrogen) cleaning, SRU, and tail gas treatment unit (Shell Claus Off gas Treatment process or SCOT) are required to reduce these undesirable components to meet pipeline standards and to meet the ammonia synthetic requirements.

APPLICABLE REGULATIONS:

401 KAR 50:055, *General compliance requirements*, is applicable to acid gas removal system (AGR) and sulfur recovery unit (SRU).

401 KAR 59:105, *New process gas streams*, is applicable to acid gas removal system (AGR) and sulfur recovery unit (SRU) which means any process gas stream which is not elsewhere subject to a standard of performance within 401 KAR Chapter 59 with respect to hydrogen sulfide (H_2S) or sulfur dioxide (SO_2); and commenced on or after June 6, 1979.

Note: The process gases resulting from these operations contain H_2S. No emissions from these processes are vented directly to the atmosphere. There is not a vent associated with the AGR. Any gas streams emitted from the AGR to the atmosphere would be through the catalyst system and flare #2. In the urea production, 60% of the CO_2 catalyst treated gas goes to flare #2. In SNG production, all of the CO_2 catalyst treated gas goes to flare #2.

1. Operating Limitations:

a. Pursuant to 401 KAR 50:055 Section 2(5), to the extent practicable, each gasification train shall be operated and maintained with the following features to minimize and control emissions.

(1) A closed vent system, which shall be designed and maintained so that any discharge of syngas or other process gas from the gasifiers or gas cleanup trains that is not sent to the sulfur recovery unit can be reintroduced into the gasification block or vented to a flare for disposal. This requirement does not apply to air or nitrogen introduced into unit(s) during periods when a unit is shutdown, as might be needed for purposes of maintenance or to purge unit(s) in preparation for startup. This requirement also does not apply to any gas streams sent to the wet sulfuric acid plant.

(2) A sulfur recovery plant or other unit for processing the sulfur in the "sour", hydrogen sulfide rich, gas stream produced from regeneration of the adsorption solvent used for control of sulfur compounds into a stable product or waste.

b. Pursuant to 401 KAR 50:055 Section 2(5), to the extent practicable, the good air pollution control practices used for the gasifiers and gas cleanup trains to minimize emissions shall include the following:

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(1) Operation of units in accordance with written operating procedures that include startup, shutdown, and malfunction plan(s).

(2) Inspection, maintenance, and repair of units in accordance with written maintenance procedures including:

(i) Appropriate practices to minimize emissions during startup, shutdown, and malfunction.

(ii) Coordination of the startup of gas cleanup train(s) with the startup of the gasifier(s) so as to minimize emissions, prior to introduction of syngas to the acid gas removal system.

(3) Use of natural gas or other low sulfur fuel (propane, ethanol, methanol, etc.) during startup of a gasifier to preheat the gasifier prior to introduction of feedstock into the gasifier.

(4) The CO_2 stream from the AGR system shall always pass through catalyst system for CO_2 purification and sulfur removal.

c. Pursuant to 401 KAR 50:055 Section 2(5), to the extent practicable, the permittee shall operate each gasification train and associated air pollution control equipment in accordance with good air pollution control practice to minimize emissions, by operating in accordance with detailed written operating procedures as it is safe to do so. These procedures at a minimum shall:

(1) Address startup, normal operation, shutdown, and malfunction events.

(2) Provisions for review of relevant operating parameters of the gasification train system during startup, shutdown, and malfunction as necessary to make adjustments and corrections to reduce or eliminate any excess emissions.

(3) With respect to startup, address readily foreseeable startup scenarios, including so called "hot startups" when the operation of a gasifier or gas cleanup train, or sulfur recovery unit, is only temporarily interrupted, and provide for appropriate review of the operational condition of a unit prior to initiating startup of the unit.

(4) (i) With respect to malfunction, identify and address likely malfunction events with specific programs of corrective actions, and provide that upon occurrence of a malfunction that will result in emissions in excess of the applicable limits, the permittee shall, as soon as practicable, repair the affected equipment, reduce the operating rate of the gasification train or remove the gasification train from service so that excess emissions cease.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(ii) Consistent with the above, if the permittee has maintained and operated a unit so that malfunctions are infrequent, sudden, not caused by poor maintenance or careless operation, and in general are not reasonably preventable, the permittee shall begin shutdown of the unit within 90 minutes, unless the malfunction is expected to be repaired within 120 minutes. In such case, shutdown of the system shall be undertaken when it is apparent that repair will not be accomplished within 120 minutes.

Compliance Demonstration Method:

The gasification block shall be operated to comply with the following work practices.

a. All discharges of syngas or other process gas shall be vented to a flare through the closed vent system, except when a failure of equipment or planning preclude the safe disposal of a gas stream in this manner.

b. The operating level of gasifiers at any time shall not exceed the actual working capacity of the gas cleanup trains at such time.

c. Sour gas shall not be flared except during start-up or optimization; or when a malfunction, due to failure of equipment or planned operation, precludes the safe processing of the sour gas in the sulfur recovery unit.

d. All H_2S gas streams produced by cleanup of syngas shall be processed by the sulfur recovery plant except in the event of malfunction or startup/shutdown of the unit.

2. <u>Emission Limitations</u>:

a. Pursuant to 401 KAR 59:105 Section 3, no permittee shall cause, suffer, allow or permit the emissions of H_2S in a process gas stream to exceed ten (10) grains per 100 dscf (165 ppm by volume) at zero percent oxygen except that sources whose combined process gas stream emissions rate totals less than two (2) tons per day of H_2S shall either reduce such emissions by eighty-five (85) percent or control such emissions such that H_2S in the gas stream emitted into the ambient air does not exceed ten (10) grains per 100 dscf (165 ppm by volume) at zero percent oxygen.

b. Pursuant to 401 KAR 59:105 Section 4, no permittee shall cause, suffer, allow or permit the emissions of SO_2 in a process gas stream to exceed 28.63 grains per 100 dscf (250 ppm by volume) at zero percent oxygen except that sources whose combined process gas stream emission rate totals less than four (4) tons per day of SO_2 shall reduce such emissions by eighty-five (85) percent. Sources which have a potential to emit less than 100 tons per year of SO_2 shall be exempt from this standard.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

The sulfur recovery plant exhaust shall be recirculated to the acid gas cleanup system without venting to the atmosphere.

3. Testing Requirements:

Pursuant to 401 KAR 59:105 Section 6, except as provided in 401 KAR 50:045, performance tests used to demonstrate compliance with **Subsection 2.a and b, Emission Limitations**, shall be conducted for EP-3 (flare #2) according to the following methods (alternative methods may be used if approved by the Division), filed by reference in 401 KAR 50:015:

(1) Reference Method 11 for H_2S;
(2) Reference Method 6 for SO_2.

Within 30 days of initial startup of EP-3 (flare #2) and biannually thereafter, the permittee shall conduct tests of the flare to confirm compliance with relevant requirements.

4. Specific Monitoring Requirements:

a. The permittee shall install, calibrate, operate, and maintain meters to measure and record consumption of feedstock(s), by each gasifier.

b. The permittee shall install, operate, and maintain monitoring systems to measure and record key operating parameters of the cleanup systems for each gas cleanup train, including:

(1) Temperature at and pressure drop across each cleanup system (Mercury Removal System, Scrubbers, and Sulfur Recovery Unit);

(2) Flow rate of scrubbant in the particulate cleanup system; and if applicable

(3) Flow rate of adsorption solvent.

c. The permittee shall sample the composition of the syngas, including but not limited to, PM (including metals) and heat content.

d. (1) On at least a monthly basis, the permittee shall determine the sulfur and heat content of the feedstock supplied to the gasifiers using standard test methods, e.g., USEPA Reference Method 19 (40 CFR 60 Appendix A, Method 19); or using supplier certification by equivalent methods.

(2) The permittee shall analyze samples of all feedstock supplies to the gasifiers and the feedstock supply itself for mercury and other metals, chlorine, and fluorine content, as follows:

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(i) Analysis shall be conducted in accordance with USEPA Reference Methods or other method approved by USEPA.

(ii) Analysis of representative samples of feedstock shall be conducted in conjunction with acceptance of coal from a new mine or any alternate feedstock.

(iii) Analysis of representative samples of feedstock shall be conducted at least every two years, if a more frequent analysis is not needed pursuant to the above requirements.

5. Specific Recordkeeping Requirements:

Gasification Block

a. The permittee shall maintain the following records with respect to operation and maintenance of each gasifier and gas cleanup train:

(1) An operating log for the unit that at a minimum shall address:

(i) Each startup of the unit, including the nature of the startup, sequence and timing of major steps in the startup, any unusual occurrences during the startup, and any deviations from the established startup procedures, with explanation;

(ii) Each shutdown of the unit, including the nature and reason for the shutdown, sequence and timing of major steps in the shutdown, any unusual occurrences during the shutdown, and any deviations from the established shutdown procedures, with explanation; and

(iii) Each malfunction of the unit that significantly impairs emission performance, including the nature and duration of the event, sequence and timing of major steps in the malfunction, corrective actions taken, any deviations from the established procedures for such a malfunction, and preventative actions taken to address similar events.

(2) Inspection, maintenance, and repair log(s) for each unit that at a minimum shall identify such activities that are performed related to components that may affect emissions; the reason for such activities, i.e., whether planned or initiated due to a specific event or condition; and any failure to carry out the established maintenance procedures, with explanation.

b. The permittee shall maintain records of the following items related to feedstock used in the gasifiers:

(1) Records of the sampling and analysis of feedstock supplied to the gasifiers conducted in accordance with **Subsection 4, Specific Monitoring Requirements.**

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(2) The sulfur content of feedstock, in lb sulfur/million Btu, supplied to the gasifiers, as determined pursuant to **Subsection 4, Specific Monitoring Requirements.**

c. The permittee shall keep records for any period during which any unit deviated from an applicable requirement.

Sulfur Recovery Plant

d. The permittee shall maintain the following operating records that at a minimum shall include for each startup of the unit:

(1) Date and duration of the startup, i.e., start time and time normal operation achieved;
(2) Whether the startup was a full startup;
(3) If normal operation is not achieved within the times determined after optimization of the plant for a cold full start or for a startup associated with catalyst regeneration, an explanation why startup could not be achieved in normal time frame;
(4) A detailed description of the startup;
(5) An explanation why established startup procedures could not be performed, if not performed;
(6) The nature of opacity, i.e., severity and duration, during the startup and the nature of opacity at the conclusion of startup, if above normal; and

e. The permittee shall maintain records related to malfunction and breakdown that, as a minimum, shall include:

(1) A maintenance and repair log for the unit and associated control equipment, listing each activity performed with date; and

(2) Records for each incident when operation of the unit continued during malfunction or breakdown with excess emissions including the following information:
(i) Date and duration of malfunction or breakdown;
(ii) A detailed explanation of the malfunction or breakdown;
(iii) An explanation why continued operation of the gasifiers was necessary;
(iv) The measures used to reduce the quantity of emissions and the event;
(v) The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and
(vi) An estimate of the amount of excess emissions released during malfunction / breakdown.

f. The permittee shall maintain records of the amount of sulfur recovered (tons/month and tons/year).

6. Specific Reporting Requirements:

See Section C.3, Reporting Requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. Specific Control Equipment Operating Conditions:

None

8. Alternate Operating Scenarios:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP-4	Description
Emergency Generator (EMG)	Natural gas fired emergency generator/fire pump (3 to 5 generators operating in parallel to provide total emergency power and fire protection requirements)
Construction Date	Fall 2010
Type of Unit (Model)	Cummins QSV 91
Kind of Unit	Reciprocating engine, 4-cycle lean burn
Maximum Rated Capacity	15 mmBtu/hr
Power Output	2,463 bhp
Primary Fuel	Natural Gas only
Control Device	Unit Catalytic Converters

APPLICABLE REGULATIONS:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

40 CFR 60 Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*, is applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) with commence construction after June 12, 2006, where the stationary SI ICE are manufactured on or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP; or on or after January 1, 2009, for emergency engines with a maximum engine power greater than 10 KW (25 HP).

Note: Pursuant to 40 CFR 60.4248, emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1. Operating Limitations:

a. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

b. Pursuant to 40 CFR 60.4243(d), emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The permittee may petition the Division for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For the permittee of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

Compliance Demonstration Method:

a. The source is in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source. If the source alters processes, process rates, material formulations, or any other factor that would result in increased emissions of these previously evaluated airborne toxics, or the emission of airborne toxics not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:040, Section 4.

b. Refer to **Subsection 4, Specific Monitoring Requirements** and **Subsection 5, Specific Recordkeeping Requirements.**

2. Emission Limitations:

Pursuant to 40 CFR 60.4233(e), the permittee of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) must comply with the emission standards in Table 1 to 40 CFR 60 Subpart JJJJ. For the permittee of stationary SI ICE with a maximum engine power greater than or equal to 100 HP manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR Part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to 40 CFR 60 Subpart JJJJ, then the permittee may meet the CO certification (not field testing) standard for which the engine was certified.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

For compliance with emission limits, refer to **Subsection 3, Testing Requirements** and **Subsection 5, Specific Recordkeeping Requirements.**

3. Testing Requirements:

a. To satisfy the requirements for an initial performance test pursuant to 40 CFR 60.8, the permittee shall submit to the Division a copy of the manufacturer's certified emissions certificate supplied with the engine within 90 days of achieving maximum load but no later than 180 days after installation.

b. Pursuant to 40 CFR 60.4243(b), if the permittee must comply with the emission standards specified in 40 CFR 60.4233(e), the permittee must demonstrate compliance according to one of the methods specified in following:

(1) Purchasing an engine certified according to procedures specified in 40 CFR 60 Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in 40 CFR 60.4243(a). [40 CFR 60.4243(b)(1)]

(2) Purchasing a non-certified engine and according to the requirements specified in 40 CFR 60.4244, as applicable, and the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance. [40 CFR 60.4243(b)(2)(ii)]

4. Specific Monitoring Requirements:

a. Pursuant to 401 KAR 52:040 Section 23, the permittee shall monitor the monthly fuel usage, the average monthly fuel heat content, and the monthly hours of operation.

b. Pursuant to 40 CFR 60.4237(a), starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the permittee must install a non-resettable hour meter.

c. Refer to Section C, General Conditions.

5. Specific Recordkeeping Requirements:

a. Pursuant to 401 KAR 52:040 Section 23, the permittee shall maintain records of the monthly fuel usage, the average monthly fuel heat content, and the monthly hours of operation.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. Pursuant to 40 CFR 60.4245(a), the permittee of all stationary SI ICE must keep records of the information in paragraphs (1) through (4).

(1) All notifications submitted to comply with 40 CFR 60 Subpart JJJJ and all documentation supporting any notification.
(2) Maintenance conducted on the engine.
(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 90 and 1048.
(4) If the stationary SI internal combustion engine is not a certified engine, documentation that the engine meets the emission standards.

c. Pursuant to 40 CFR 60.4245(b), for all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

d. See Section C.2, Recordkeeping Requirements.

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60.4245(c), the permittee of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231 must submit an initial notification as required in 40 CFR 60.7(a)(1). The notification must include the information in paragraphs (1) through (5).

(1) Name and address of the owner or operator;
(2) The address of the affected source;
(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
(4) Emission control equipment; and
(5) Fuel used.

b. Pursuant to 40 CFR 60.4245(d), the permittee of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in 40 CFR 60.4244 within 60 days after the test has been completed.

c. See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

8. Alternate Operating Scenarios:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP-5	Description
Cooling Tower (CT)	The water from the cooling tower is cycled through the system to remove heat from the process operation and steam turbine condenser.
Construction Date	Fall 2010
Number of Cells	3 (CT1-CT3)
Maximum Rated Capacity	0.15 million gallons/hr
Total Dissolved Solid Concentration	0.021 PPM
Evaporation Rate	2,500 GPM
Drift Eliminator	0.0005% of circulating water flow

APPLICABLE REGULATIONS:

401 KAR 63:010, *Fugitive Emissions*, is applicable to cooling tower which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. Chromium-based water treatment chemicals, as defined in 40 CFR 63.401, shall not be used in the affected unit.

b. Pursuant to 401 KAR 50:055 Section 2(5), the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the cabinet which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

Compliance Demonstration Method:

a. Refer to Section C.6.b for compliance reporting.

b. (1) The affected unit shall be equipped, operated, and maintained with drift eliminators designed to limit the loss of water droplets from the unit to not more than 0.0005 percent of the circulating water flow.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(2) The permittee shall either (i) equip the affected unit with appropriate features, such as louvered heating coils designed to heat tower plenum air as required, to enable it to be operated without a significant contribution to fogging and icing on offsite roadways during periods when fogging or icing are present in the area or weather conditions are conducive to fogging or icing, or (ii) demonstrate by appropriate analysis, which has been submitted to the Division for review, that the cooling tower will be sited and designed and can be operated such that additional features are not needed to prevent a significant contribution to fogging and icing on offsite roadways.

(3) The permittee shall operate and maintain the affected unit, including the drift eliminators, in a manner consistent with good air pollution control practices for minimizing emissions.

(4) The permittee shall operate and maintain the affected unit in accordance with written operating procedures, which procedures shall be kept current. These procedures shall address the practices that will be followed as good air pollution control practices and the actions that will be followed to prevent a significant contribution to icing and fogging on offsite roadways.

2. Emission Limitations:

Pursuant to 401 KAR 63:010 Section 3(2), the permittee shall not cause or permit the discharge of cooling tower mist emissions beyond the lot line of the property on which the emissions originate.

Compliance Demonstration Method:

For compliance with the emission limit, see **Subsection 3, Testing Requirements** and **Subsection 4, Specific Monitoring Requirements.**

3. Testing Requirements:

If the Division requires it, the permittee shall perform Reference Method 22 for the visual determination of fugitive emissions from the cooling tower.

4. Specific Monitoring Requirements:

a. The permittee shall sample and analyze the water being circulated in the affected unit on at least a monthly basis for the total dissolved solids content. Measurements of the total dissolved solids content in the wastewater discharge associated with the affected unit, as required by a National Pollution Discharge Elimination System Permit, may be used to satisfy this requirement if the effluent has not been diluted or otherwise treated in a manner that would significantly reduce its total dissolved solids content.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. Upon written request by the Division, the permittee shall promptly have the water circulating in the affected unit sampled and analyzed for the presence of hexavalent chromium in accordance with the procedures of 40 CFR 63.404(a) and (b).

c. The permittee shall monitor the quantity of make-up water (in gallons) to the cooling tower on a monthly basis.

5. Specific Recordkeeping Requirements:

a. The permittee shall keep a file that contains:

(1) The design loss specification for the drift eliminators installed in the affected unit.

(2) The suppliers' recommended procedures for inspection and maintenance of the drift eliminators.

(3) The operating factors, if any, used to determine the amount of water circulated in the affected unit or the PM/PM_{10} emissions from the affected unit, with supporting documentation.

(4) Copies of the Material Safety Data Sheets or other comparable information from the suppliers for the various water treatment chemicals that are added to the water circulated in the affected unit.

b. The permittee shall keep the following operating records for the affected unit:

(1) The amount of water circulated in the affected unit, gallons/month. As an alternative to direct data for water flow, these records may contain other relevant operating data for the unit (e.g., water flow or make-up water added to the unit) from which the amount of water circulated in the unit may be reasonably determined.

(2) Each occasion when the permittee took action to prevent a significant contribution to fogging or icing from the affected unit, including the date and duration, the action or actions that were taken, the weather conditions that triggered such actions, and the weather conditions when such actions were terminated.

c. The permittee shall keep inspection and maintenance logs for the drift eliminators installed in the affected unit.

d. The permittee shall maintain records for the PM/PM_{10} emissions of the affected unit based on the above records, the measurements required by **Subsection 4.b, Specific Monitoring Requirements**, and appropriate USEPA emission estimation methodology and emission factors, with supporting calculation.

e. See Section C.2, Recordkeeping Requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

a. If the cooling tower is equipped with features to address fogging and icing, the permittee shall submit quarterly reports to the Division summarizing the records required by **Subsection 5.b.(2), Specific Recordkeeping Requirements** and identifying any deviation from established practices for the use of such features.

b. See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

The permittee shall maintain the drift eliminators in the affected unit in a manner consistent with good air pollution control practices for minimizing emissions.

8. Alternate Operating Scenarios:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Coal Handling - Transfer Towers

EP-6	Description
Transfer Tower #1 (TT1)	Coal Transfer (CT1A), CDC-001 Coal Screening (CS1), CDC-002 Coal Transfer (CT1B), CFD-001 Coal Screening (CS2), CDC-011
Maximum Rated Capacity for CT1A Maximum Rated Capacity for CS1 Maximum Rated Capacity for CT1B Maximum Rated Capacity for CS2	750 tons/hr 200 tons/hr 200 tons/hr 600 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse #1

EP-7	Description
Transfer Tower #2 (TT2)	Coal Transfer (CT2A), CDC-004 Coal Transfer (CT2B), CFD-002 Coal Transfer (CT2C), CFD-003 Coal Transfer (CT2D), CFD-005 Coal Transfer (CT2E), CFD-007
Maximum Rated Capacity for CT2A Maximum Rated Capacity for CT2B Maximum Rated Capacity for CT2C Maximum Rated Capacity for CT2D Maximum Rated Capacity for CT2E	600 tons/hr 200 tons/hr 275 tons/hr 200 tons/hr 200 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse #2

EP-8	Description
Transfer Tower #3 (TT3)	Coal Transfer (CTT3), CDC-003
Maximum Rated Capacity	210 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse #3

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP-9	Description
Transfer Tower #4 (TT4)	Coal Transfer (CT4A), CDC-005 Coal Transfer (CT4B), CFD-004 Coal Magnetic Separator (CMS4), CFD-015 Coal Crushing / Sizing (CCS4), CDC-012
Maximum Rated Capacity for CT4A, CT4B, CMS4, and CCS4	200 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse #4

Coal Handling - Bin Vents

EP-20, EP-21, EP-22, and EP-23	Description
Bin Vent Filter #1 (BVF1) Bin Vent Filter #2 (BVF2) Bin Vent Filter #3 (BVF3) Bin Vent Filter #4 (BVF4)	Dry Pulverized Coal Bunker (DCBF1), CDC-015 Dry Pulverized Coal Bunker (DCBF2), CDC-015 Dry Pulverized Coal Bunker (DCBF3), CDC-015 Dry Pulverized Coal Bunker (DCBF4), CDC-015
Maximum Rated Capacity	210 tons/hr
Construction Date	Fall 2010
Control Device	Bin Vent Filter #1 - #4

EP-24, EP-25, EP-26, and EP-27	Description
Bin Vent Filter #5 (BVF5) Bin Vent Filter #5 (BVF5)	Conveyor 3.1 to Feed Silos (CFS), CFD-006 Coal Storage Silo (CCS1), CDC-007 (F601-103)
Bin Vent Filter #6 (BVF6) Bin Vent Filter #7 (BVF7) Bin Vent Filter #8 (BVF8)	Coal Storage Silo (CCS2), CDC-007 (F601-203) Coal Storage Silo (CCS3), CDC-007 (F601-303) Coal Storage Silo (CCS4), CDC-007 (F601-403)
Maximum Rated Capacity for CFS Maximum Rated Capacity for CCS1-4	200 tons/hr 600 tons/hr
Construction Date	Fall 2010
Control Device	Bin Vent Filter #5 - #8

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP-28 and EP-29	Description
Bin Vent Filter #10 (BVF10) Bin Vent Filter #11 (BVF11)	Lock Hopper Bin Vent Filters (LHBF1), CDC-016 Lock Hopper Bin Vent Filters (LHBF2), CDC-016
Maximum Rated Capacity	105 tons/hr
Construction Date	Fall 2010
Control Device	Bin Vent Filter #10 - #11

Coal Handling - Coal Grinding and Drying

EP-30, EP-31, and EP-32	Description
Coal Grinding and Drying (CG)	Coal Grinding (CG1) Coal Grinding (CG2) Coal Grinding (CG3)
Maximum Rated Capacity	70 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse

Gasification and Syngas Cleaning

EP-33 and EP-34	Description
Depressurizing Filters (LHD)	Depressurizing Filter #1 (LHDF1), F602-104 Depressurizing Filter #2 (LHDF2), F602-204
Maximum Rated Capacity	105 tons/hr
Construction Date	Fall 2010
Control Device	Fabric Filters

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Coal Handling - Coal Truck Fugitive

Fugitive	Description
Coal Truck Fugitive (CTF)	Coal Truck Unload Fugitive (CTF1), CDC-006 Coal Truck Transfer Fugitive (CTF2), CFD-008
Maximum Rated Capacity for CTF1 Maximum Rated Capacity for CTF2	275 tons/hr 137.5 tons/hr
Construction Date	Fall 2010
Control Device	Low Drop Height and Enclosure

APPLICABLE REGULATIONS:

401 KAR 59:010, *New Process Operations*, is applicable to emissions units, associated with a process operation, commenced on or after July 2, 1975.

401 KAR 63:010, *Fugitive Emissions*, is applicable to coal truck fugitive as an apparatus, operation, or road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation Plants*, is applicable to the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems commencing construction or modification after October 24, 1974.

Note: The affected units for the purpose of these unit-specific conditions are equipment and facilities handling coal and other bulk materials (e.g., slag from the gasifiers) that are involved with the operation of the plant and that have the potential for particulate matter (PM) emissions.

1. Operating Limitations:

a. Pursuant to 401 KAR 63:010 Section 3, reasonable precautions shall be taken to prevent particulate matter (PM) from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

(1) Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(2) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;

(3) The maintenance of paved roads in a clean condition; and

(4) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

b. At all times, the permittee shall maintain and operate affected units that are subject to 40 CFR Part 60 (NSPS), including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, pursuant to 40 CFR 60.11(d).

Compliance Demonstration Method:

a. PM/PM_{10} emissions from an affected unit handling a wet material shall be controlled by the following measures. For this purpose, wet material is a material that has sufficient moisture during normal operation to minimize the potential for direct emissions.

(1) Maintaining the material with adequate moisture to prevent visible emissions directly from such unit during the handling, storage or load out of the material.

(2) Collection of spilled material that could become airborne if it dried or were subject to vehicle traffic as part of the Program for Control of Fugitive Dust.

b. PM/PM_{10} emissions from an affected unit handling a dry material, other than a storage pile for dry material and handling operations associated with the storage pile, shall be controlled by:

(1) Partial or full enclosure of the unit, as applicable, so as to prevent visible fugitive emissions, which means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation as defined by 40 CFR 60.671, from the affected unit.

(2) Aspiration to a control device designed to emit no more than 0.01 grains/dry standard cubic foot (gr/dscf), which device shall be operated in accordance with good air pollution control practice to minimize emissions. For this purpose, the control device shall be a baghouse or other filtration type device unless the permittee demonstrates and the Division concurs that another type of control device is preferable due to considerations of operational safety.

c. PM/PM_{10} emissions from storage piles for dry material, including material handling operations associated with the piles, shall be controlled by application of water or other dust suppressants so as to minimize fugitive emissions to the extent practicable.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

For this purpose, there shall either:

(1) Be no visible emissions from the affected unit, as determined in accordance with USEPA Method 22, or

(2) A nominal control efficiency shall be achieved from the uncontrolled emission rate, as follows, as determined using appropriate USEPA emission factors for particulate emissions from handling of a material dry, in the absence of any control of emissions, and engineering analysis and calculations for the control measures that are actually present: Coal - 75 percent or greater.

d. (1) Bulk materials other than coal or slag that have the potential for PM/PM_{10} emissions shall be stored in silos, bins, and buildings, without storage of such materials in outdoor piles except on a temporary basis during breakdown or other disruption in the capabilities of the enclosed storage facilities.

(2) Coal storage piles and temporary piles for other materials shall be equipped and operated with adjustable stacker(s), rotary stacker(s), coal ladders, telescoping chutes or other comparable devices to minimize the distance that material drops when added to the pile and minimize the associated PM/PM_{10} emissions.

e. The permittee shall implement and maintain control measures for the affected units that minimize visible emissions of PM/PM_{10} and provide assurance of compliance with the applicable limits and standards.

f. The affected units, including associated control equipment shall be operated and maintained in accordance with good air pollution control practice to minimize emissions.

g. See **Subsection 5, Specific Recordkeeping Requirements.**

2. <u>Emission Limitations</u>:

a. Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission into the open air shall not equal or exceed 20% opacity based on a six-minute average.

b. Pursuant to 401 KAR 59:010 Section 3(2), particulate matter emissions shall not exceed the calculated allowable rate as determined by the following equation.

$E_{Allowable}$ = 2.34 lb/hr for P less than or equal to 0.5 ton/hr

= $3.59 * P^{0.62}$ for P greater than 0.5 ton/hr but less than or equal to 30 ton/hr

= $17.31 * P^{0.16}$ for P greater than 30 ton/hr

where

$E_{Allowable}$ = Allowable rate of particulate emissions (lbs/hr)

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

P = Process weight rate (tons/hr), equal to the total process weight for a period that covers a complete batch operation (tons/batch) divided by the hours of actual process operation during the batch operation (hrs/batch)

c. Pursuant to 401 KAR 63:010 Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

d. Pursuant to 40 CFR 60.252(c), on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Compliance Demonstration Method:

a. For compliance with visible emissions limit, see **Subsection 3, Testing Requirements** and **Subsection 4, Specific Monitoring Requirements.**

b. Opacity Standard: Compliance with the opacity standard shall be determined by conducting a qualitative visual observation of the opacity of emissions at the stack no less than weekly and maintaining a log of the observations. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

c. Mass Standard: Compliance with the mass standard is demonstrated when the dust collector is operated in accordance with Subsection **7, Specific Control Equipment Operating Conditions.**

d. Compliance with 40 CFR 60.252(c) is demonstrated by good operating procedures, see **Subsection 1.a, Operating Limitations**, and visual observation of no fugitive dust emissions beyond the property line.

3. Testing Requirements:

a. Pursuant to 401 KAR 59:010 Section 4(1), if the Division requires it, permittee shall perform a Reference Method 5 test, or other methods approved by the Division, to determine the emission rate of particulate matter.

b. Pursuant to 401 KAR 59:010 Section 4(5), if the Division requires it, the permittee shall perform a Reference Method 9 test to determine the opacity of continuous emissions.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. Within 60 days after achieving the maximum production rate at which each affected unit subject to 40 CFR Part 60 (NSPS) will be operated, but not later than 180 days after initial startup of each such unit, the permittee shall have emissions tests conducted by an approved testing protocol under unit operating conditions that are representative of maximum emissions.

d. Pursuant to 40 CFR 60.254(b), the permittee shall determine compliance with the particulate matter standards in 40 CFR 60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

(2) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

e. Refer to Section C.7.c.

4. Specific Monitoring Requirements:

a. The permittee shall monitor opacity from the stack weekly during periods of operation as specified in Compliance Demonstration Method 2.b. Opacity Standard above.

b. The permittee shall monitor dust collector pressure drop daily during periods of operation.

c. (1) The permittee shall conduct inspections of affected units on at least a monthly basis with personnel who are not directly responsible for the day-to-day operation of these units, for the specific purpose of verifying that the measures identified in the operating program and other measures required to control emissions from affected units are being properly implemented.

(2) These inspections shall include observation for the presence of visible emissions, performed in accordance with USEPA Method 22, from buildings in which affected units are located and from units from which the permittee has elected to demonstrate no visible emissions.

d. The permittee shall perform detailed inspections of the dust collection equipment for affected units while the units are out of service, with an initial inspection performed before any maintenance and repair activities are conducted during the period the unit is out of service and a follow-up inspection performed after any such activities are completed. These inspections shall be conducted at least every 15 months.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of corrective actions taken as a result of seeing visible emissions from the stack, including date and time.

b. The permittee shall maintain records of Method 9 readings performed.

c. The permittee shall maintain records of filter replacements, including date and time.

d. The permittee shall maintain records of daily pressure drop readings.

e. The permittee shall maintain records of the calculations to determine the fugitive emission with all data used in the calculations. Emission calculations shall be based on the most current AP-42 emission factors.

f. The permittee shall keep a log of the reasonable precautions taken to prevent particulate matter form becoming airborne on a weekly basis.

g. For affected units that are subject to 40 CFR Part 60 (NSPS), the permittee shall fulfill applicable recordkeeping requirements of 40 CFR 60.7.

h. The permittee shall maintain file(s), which shall be kept current, that contain:

(1) The maximum operating capacity of each affected unit or group of related units (tons/hour).

(2) (i) For the baghouses and other filter devices associated with affected units, design specifications for each device (type of unit, maximum design exhaust flow (acfm and scfm), filter area, type of filter cleaning, performance guarantee for particulate exhaust loading in gr/scf, etc.), the manufacturer's recommended operating and maintenance procedures for the device, and design specification for the filter material in each device (type of material, surface treatment(s) applied to material, weight, performance guarantee, warranty provisions, etc.).

(ii) For each baghouse, the normal range of pressure drop across the device and the minimum and maximum safe pressure drop for the device, with supporting documentation.

(3) For affected units that are not controlled with baghouses or other filter-type devices, a detailed description of the work practices used to control emissions of PM/PM_{10}. These control measures are referred to as the "established control measures" in this subsection of this permit.

(4) The designated PM/PM_{10} emission rate, in pounds/hour and tons/year, from affected units, either individually or grouped by related units, with supporting calculations and

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

documentation, including detailed documentation for the level of emissions control achieved through the work practices that are used to control PM/PM_{10} emissions.

i. The permittee shall keep records for the amount of bulk materials received by or loaded out from the plant by category or type of material (tons/month).

j. (1) The permittee shall keep inspection and maintenance log(s) or other records for the control measures associated with the affected units, including buildings and enclosures, dust suppression systems and control devices.

(2) These records shall include the following information for the inspections required by **Subsection 4.c, Specific Monitoring Requirements:**

(i) Date and time the inspection was performed and name(s) of inspection personnel.

(ii) The observed condition of the control measures for each affected unit, including the presence of any visible emissions.

(iii) A description of any maintenance or repair associated with established control measures that are recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

(iv) A summary of the observed implementation or status of actual control measures, as compared to the established control measures.

(3) These records shall include the following information for the inspections required by **Subsection 4.d, Specific Monitoring Requirements:**

(i) Date and time the inspection was performed and name(s) of inspection personnel.

(ii) The observed condition of the dust collection equipment.

(iii) A summary of the maintenance and repair that is to be or was conducted on the equipment.

(iv) A description of any maintenance or repair that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

(v) A summary of the observed condition of the equipment as related to its ability to reliably and effectively control emissions.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

k. The permittee shall maintain records of the following for each incident when any affected unit operated without the control measures:

(1) The date of the incident and identification of the unit(s) that were involved.

(2) A description of the incident, including: the established control measures that were not present or implemented; the established control measures that were present, if any; and other control measures or mitigation measures that were implemented, if any.

(3) The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.

(4) Operational data for the incident, e.g., the measured pressure drop of a baghouse, if the pressure drop of the baghouse deviated outside the levels set as good air pollution control practices.

(5) The corrective action(s) taken and the length of time after the incident was identified that the unit(s) continued to operate before established control measures were in place or the operations were shutdown (to resume operation only after established control measures were in place) and, if this time was more than one hour, an explanation why this time was not shorter, including a detailed description of any mitigation measures that were implemented during the incident.

(6) The estimated total duration of the incident, i.e., the total length of time that the unit(s) ran without established control measures and the estimated amount of material processed during the incident.

(7) A discussion of the probable cause of the incident and any preventative measures taken.

(8) An estimate of any additional emissions of PM/PM_{10} (pounds) above the PM/PM_{10} emissions associated with normal operation that resulted from the incident, if any, with supporting calculations.

(9) A discussion whether any applicable emission standard may have been violated during the incident, with an estimate of the amount of any excess PM/PM_{10} emissions (lbs) and supporting explanation.

l. The permittee shall maintain the following records for the emissions of the affected units:

(1) A file containing the standard emission factors used by the permittee to determine PM/PM_{10} emissions from the units, with supporting documentation.

(2) Records of PM/PM_{10} emissions based on operating data for the unit(s) and appropriate emission factors, with supporting documentation and calculations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

m. The permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for affected units that it conducts or that are conducted at its request by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to **Subsection 3, Testing Requirements** or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected unit, the observed opacity, and copies of the raw data sheets for the measurements.

n. See Section C.2, Recordkeeping Requirements.

6. Specific Reporting Requirements:

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of pressure drop excursions and/or visible emissions, as applicable, and the corrective actions taken;

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for pressure drop gauge downtime incidents;

c. Records of the date and time of filter replacements during the compliance period.

d. See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

a. The permittee shall monitor and record pressure drop across the filter unit daily when the coal handling equipment is operating. Filter unit readings shall be taken daily except on days when the coal handling equipment did not operate, in which case an entry shall be made in the log noting such. After compiling thirty (30) days of filter unit pressure drop data, the permittee shall submit a notification to the Regional Office listed on the front of this permit in writing, with a copy to the Division's Frankfort Central Office. The notification shall specify the minimum pressure drop across the filter unit in order to assure compliance and shall provide manufacturer's guaranteed efficiency data for the actual installed equipment.

b. The permittee shall install, operate, and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than bin vent filters and other similar filtration devices.

c. The permittee shall maintain the records of the measurements made by these systems and records of maintenance and operational activity associated with the systems.

8. Alternate Operating Scenarios:

The permittee is authorized, as follows, to construct and operate affected units that differ from those described in the application in certain respects without obtaining further approval by the

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Division. This condition does not affect the permittee's obligation to comply with all applicable requirements for affected units:

a. This authorization only extends to changes that result from the detailed design of the project and any refinements to that design of the affected units that occur during construction and the initial operation of the plant.

b. With respect to air quality impacts, these changes shall generally act to improve dispersion and reduce impacts, as emissions from individual units are lowered, units are moved apart or away from the fence line, stack heights are increased, and heights of nearby structures are reduced.

c. The permittee shall notify the Division prior to proceeding with any changes. In this notification, the permittee shall describe the proposed changes and explain why the proposed changes will act to reduce impacts, with detailed supporting documentation.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Urea Handling - Transfer Towers

EP-11	Description
Transfer Tower #1 (UT1)	Granulized Urea Transfer (UT1A), CFD-013 Granulized Urea Transfer (UT1B), CFD-014
Maximum Rated Capacity for UT1A Maximum Rated Capacity for UT1B	600 tons/hr 600 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse #1

EP-12	Description
Transfer Tower #2 (UT2)	Granulized Urea Transfer (UT2A), CFD-010 Granulized Urea Transfer (UT2B), CFD-011 Granulized Urea Transfer (UT2C), CFD-012
Maximum Rated Capacity for UT2A Maximum Rated Capacity for UT2B Maximum Rated Capacity for UT2C	137.5 tons/hr 137.5 tons/hr 600 tons/hr
Construction Date	Fall 2010
Control Device	Dust Collector Baghouse #2

Urea Handling - Urea Granulation and Coolers

EP-13 and EP-14	Description
Urea Granulator and Coolers (UG)	Urea Granulator and Cooler (UG1) Urea Granulator and Cooler (UG2)
Maximum Rated Capacity for UG1 Maximum Rated Capacity for UG2	68.5 tons/hr 68.5 tons/hr
Construction Date	Fall 2010
Control Device	Primary and Secondary Scrubbers

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

APPLICABLE REGULATIONS:

401 KAR 59:010, *New Process Operations*, is applicable to an emissions unit, associated with a process operation, commenced on or after July 2, 1975.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

40 CFR 60 Subpart VVa, *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006*, is applicable to affected facilities in the synthetic organic chemicals manufacturing industry that commences construction or modification after November 7, 2006.

Note: Urea is one of the products subject to regulation by 40 CFR 60 Subpart VVa. Since the source will produce granulized fertilizer with a liquid urea intermediary the requirements of this regulation apply. All liquid urea is collected and recycled into the process. The urea granulator and cooler are controlled by primary and secondary scrubber with an overall control efficiency in excess of 99%.

1. Operating Limitations:

a. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

General

b. The permittee shall demonstrate compliance with the requirements of 40 CFR 60.482-1a through 60.482-10a or 40 CFR 60.480a(e) for all equipment within 180 days of initial startup. [40 CFR 60.482-1a(a)]

c. Compliance with 40 CFR 60.482-1a to 60.482-10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485a. [40 CFR 60.482-1a(b)]

d. (1) The permittee may request a determination of equivalence of a means of emission limitation to the requirements of 40 CFR 60.482-2a, 60.482-3a, 60.482-5a, 60.482-6a, 60.482-7a, 60.482-8a, and 60.482-10a as provided in 40 CFR 60.484a. [40 CFR 60.482-1a(c)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(2) If the Division makes a determination that a means of emission limitation is at least equivalent to the requirements of 40 CFR 60.482-2a, 60.482-3a, 60.482-5a, 60.482-6a, 60.482-7a, 60.482-8a, or 60.482-10a, the permittee shall comply with the requirements of that determination. [40 CFR 60.482-1a(c)(2)]

Closed Vent Systems and Control Devices

e. Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent. [40 CFR 60.482-10a(b)]

f. The permittee shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. [40 CFR 60.482-10a(e)]

g. Except as provided in 40 CFR 60.482-10a(i) through (k), each closed vent system shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10a(f)(1) and (2). [40 CFR 60.482-10a(f)]

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the permittee shall comply with the requirements specified in 40 CFR 60.482-10a(f)(1)(i) and (ii):

(i) Conduct an initial inspection according to the procedures in 40 CFR 60.485a(b); and
(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the permittee shall:

(i) Conduct an initial inspection according to the procedures in 40 CFR 60.485a(b); and
(ii) Conduct annual inspections according to the procedures in 40 CFR 60.485a(b).

h. Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10a(h). [40 CFR 60.482-10a(g)]

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

i. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10a(h)]

j. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10a(l)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10a(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482(j)(1) and (2). [40 CFR 60.482-10a(j)]

(1) The permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with 40 CFR 60.482-10a(f)(1)(i) or (f)(2); and

(2) The permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

k. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10a(l)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10a(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10a(k)(1) through (3). [40 CFR 60.482-10a(k)]

(1) The permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through 40 CFR 60.14 or 60.15, or the permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The permittee has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

Compliance Demonstration Method:

a. The source is in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source. If the source alters processes, process rates, material formulations, or any other factor that would result in increased emissions of these previously evaluated airborne toxics, or the emission of airborne toxics not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:040, Section 4.

b. For compliance with 40 CFR 60 VVa operating conditions, refer to **Subsection 5, Specific Recordkeeping Requirements** and **Subsection 6, Specific Reporting Requirements.**

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. Emission Limitations:

a. Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emission into the open air shall not equal or exceed 20% opacity based on a six-minute average.

b. Pursuant to 401 KAR 59:010 Section 3(2), particulate matter emissions shall not exceed the calculated allowable rate as determined by the following equation.

$E_{Allowable}$ = 2.34 lb/hr for P less than or equal to 0.5 ton/hr

= $3.59 * P^{0.62}$ for P greater than 0.5 ton/hr but less than or equal to 30 ton/hr

= $17.31 * P^{0.16}$ for P greater than 30 ton/hr

where

$E_{Allowable}$ = Allowable rate of particulate emissions (lbs/hr)

P = Process weight rate (tons/hr), equal to the total process weight for a period that covers a complete batch operation (tons/batch) divided by the hours of actual process operation during the batch operation (hrs/batch)

Compliance Demonstration Method:

a. For compliance with visible emissions limit, see **Subsection 3, Testing Requirements** and **Subsection 4, Specific Monitoring Requirements.**

b. The following table of emissions factors shall be used to show compliance with the PM emission limit with proper operation of the control equipment. Refer to **Subsection 7, Specific Control Equipment Operating Conditions** for control equipment proper operation.

Emission Point	Emission Factor (lbs PM / ton)	Control Efficiency (%)	Max. Emission (lb/hr)	Max. Allowable (lb/hr)
EP-11	0.003	90	0.36	9.62
EP-12	0.00175 for UT2A and UT2B	90	0.04	7.6
	0.003 for UT2C		0.18	4.81
EP-13	248.78	99.9835	2.81	5.65
EP-14	248.78	99.9835	2.81	5.65

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Testing Requirements:

a. The permittee shall determine the opacity of emissions using U.S. EPA Reference Method 9 if visible emissions from the stack are seen (not including condensed water vapor within the plume) during monitoring. Refer to **Subsection 4.a, Specific Monitoring Requirements.**

b. The permittee shall utilize the following source test methods or another test approved by the Division for EP-13 and EP-14 to be performed within 180 days of startup for the scrubbers.

Test Method	Parameter / Pollutant
USEPA Method 9	Opacity
USEPA Method 18	CG/FID analysis with on site testing required (ammonia and formaldehyde)
USEPA Method 25A	Determination of total VOC emissions

4. Specific Monitoring Requirements:

a. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If visible emissions from the stack are seen (not including condensed water vapor within the plume), then the opacity shall be determined by Reference Method 9. If emissions are in excess of the applicable opacity limit, then an inspection shall be initiated of control equipment for any necessary repairs.

b. Refer to **Subsection 1, Operating Limitations.**

5. Specific Recordkeeping Requirements:

a. The permittee shall retain records of the following:

(1) The tons of raw material throughput and hours of operation shall be maintained on a monthly basis from each emission unit.

(2) Weekly qualitative opacity readings from each stack.

(3) The opacity determined by Reference Method 9, when taken, and documentation of any repairs that were made due to any opacity reading, which exceeded the standard.

(4) A log showing the date of all routine or other maintenance, malfunction or repair of baghouses and scrubbers, the nature of the action taken on such date and any corrective

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

action or preventive measures taken.

b. The permittee shall maintain records of the occurrence of any startup, shutdown, or malfunction in the operation of all piping equipment.

c. The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10a shall be recorded and kept in a readily accessible location [40 CFR 60.486a(d)]:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a.

d. The information specified in 40 CFR 60.486a(e)(1) through (10) pertaining to all equipment subject to the requirements in 40 CFR 60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486a(e)]

e. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486a(j)]

f. The permittee shall record the information specified in 40 CFR 60.482-10a(l)(1) through (5). [40 CFR 60.482-10a(l)]

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486a(c).

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(4) For each inspection conducted in accordance with 40 CFR 60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with 40 CFR 60.482-10a(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

g. See Section C.2, Recordkeeping Requirements.

6. Specific Reporting Requirements:

a. The permittee shall submit semiannual reports to the Division beginning 6 months after the initial startup date. [40 CFR 60.487a(a)]

b. The initial semiannual report to the Division shall include the information specified in 40 CFR 60.487a(b)(1) through (5). [40 CFR 60.487a(b)]

c. All semiannual reports to the Division shall include the information specified in 40 CFR 60.487a(c)(1) through (4), summarized from the information in 40 CFR 60.486a. [40 CFR 60.487a(c)]

d. The permittee shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the 40 CFR 60 Subpart VVa except that the permittee must notify the Division of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487a(e)]

e. See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

a. The scrubbers shall be operated in the range of temperature and flowrates specified by the manufacturer for proper operation of the device.

b. The permittee shall install, operate, and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than bin vent filters and other similar filtration devices.

c. The permittee shall maintain the records of the measurements made by these systems and records of maintenance and operational activity associated with the systems.

8. Alternate Operating Scenarios:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Fugitive - Haul Road	Description
Paved Onsite Unpaved Onsite Paved Offsite Paved Paved Paved	Slag Truck Haul Road (HR1A, SLT) Slag Truck Haul Road (HR1B, SLTU) Slag Truck Haul Road (HR1C, SLTO) Sulfur Truck Haul Road (HR2, SUT) Coal Truck Haul Road (HR3, CTR) Fertilizer Truck Haul Road (HR4, FTR)
Maximum Rated Capacity for HR1A Maximum Rated Capacity for HR1B Maximum Rated Capacity for HR1C Maximum Rated Capacity for HR2 Maximum Rated Capacity for HR3 Maximum Rated Capacity for HR4	2.12 VMT/hr 0.5 VMT/hr 1 VMT/hr 0.28 VMT/hr 10.34 VMT/hr 0.94 VMT/hr
Construction Date	Fall 2010
Control Device	Water Spray

Fugitive - Barge (BU)	Description
BU	Barge Coal Unload by Clam Scoop
Maximum Rated Capacity	750 tons/hr
Construction Date	Fall 2010
Control Device	Suppressants

Fugitive - Coal Storage Pile (CSP)	Description
CSP	Coal Pile Erosion (CPW) Coal Pile Maintenance (CPD) Coal Pile Loading Chute (CPS)
Maximum Rated Capacity for CPW Maximum Rated Capacity for CPD Maximum Rated Capacity for CPS	17.12 tons/hr 1.14 tons/hr 600 tons/hr
Construction Date	Fall 2010
Control Device	Suppressants

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

APPLICABLE REGULATIONS:

401 KAR 63:010, *Fugitive Emissions*, is applicable to coal truck fugitive as an apparatus, operation, or road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

Note: Affected operations for the purpose of these unit-specific conditions are roadways, parking areas, and other open areas associated with the operation of the plant, which may be sources of fugitive particulate matter due to vehicle traffic or wind blown dust. These emissions are controlled by paving and implementation of work practices to prevent the generation and emissions of particulate matter.

40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation Plants*, is applicable to the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems commencing construction or modification after October 24, 1974.

Note: The coal truck haul road (HR3), barge (BU), and coal storage pile (CSP) for the purpose of these unit-specific conditions are equipment and facilities handling coal and other bulk materials that are involved with the operation of the plant and that have the potential for particulate matter (PM) emissions.

1. Operating Limitations:

Pursuant to 401 KAR 63:010 Section 3, reasonable precautions shall be taken to prevent particulate matter (PM) from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

b. Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations;

d. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;

e. The maintenance of paved roads in a clean condition; and

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

f. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

Compliance Demonstration Method:

Compliance will be demonstrated by the good operating procedures listed above and see **Subsection 5, Specific Recordkeeping Requirements.**

2. Emission Limitations:

Pursuant to 401 KAR 63:010 Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

Compliance Demonstration Method:

Compliance by good operating procedures, see **Subsection 1, Operating Limitations**, and visual observation of no fugitive dust emissions beyond the property line.

3. Testing Requirements:

None

4. Specific Monitoring Requirements:

None

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the calculations to determine the fugitive emission from haul roads, barge, and coal storage piles with all data used in the calculations. Emission calculations shall be based on the most current AP-42 emission factors.

b. The permittee shall keep a log of the reasonable precautions taken to prevent particulate matter form becoming airborne on a weekly basis.

c. See Section C.2, Recordkeeping Requirements.

6. Specific Reporting Requirements:

See Section C.3, Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

8. Alternate Operating Scenarios:

None

SECTION C - GENERAL CONDITIONS

1. Administrative Requirements

a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.

b. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division. [401 KAR 52:040, Section 15]

c. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-11 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

d. Pursuant to materials incorporated by reference by 401 KAR 52:040, this permit may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition [Section 1a-4, 5, of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

e. This permit does not convey property rights or exclusive privileges [Section 1a-8 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

f. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:040 Section 11(3)].

g. This permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in 401 KAR 50:038, Air emissions fee. The permittee shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20.

h. All previously issued permits to this source at this location are hereby null and void.

SECTION C - GENERAL CONDITIONS (CONTINUED)

2. Recordkeeping Requirements

a. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [401 KAR 52:040 Section 3(1)(f) and Section 1b-IV-2 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

b. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

3. Reporting Requirements

a. (1) In accordance with the provisions of 401 KAR 50:055, Section 1, the permittee shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   i. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

   (2) The permittee shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Reporting Requirement condition a.(1) above), the probable cause of the deviation, and corrective or preventive measures taken; to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report [Section 1b-V-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

b. The permittee shall furnish information requested by the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the permit [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

c. Summary reports of monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation. The summary reports

SECTION C - GENERAL CONDITIONS (CONTINUED)

are due January 30th and July 30th of each year. All deviations from permit requirements shall be clearly identified in the reports. All reports shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21.

4. Inspections

In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency:

a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation.

b. To access and copy any records required by the permit.

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit.

d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

5. Emergencies/Enforcement Provisions

a. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing State-Origin Permits* incorporated by reference in 401 KAR 52:040 Section 23].

b. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   (1) An emergency occurred and the permittee can identify the cause of the emergency;
   (2) The permitted facility was at the time being properly operated;
   (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   (4) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

c. Emergency provisions listed in General Condition 5.b are in addition to any emergency or upset provision contained in an applicable requirement [401 KAR 52:040, Section 22(1)].

d. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:040, Section 22(2)].

SECTION C - GENERAL CONDITIONS (CONTINUED)

6. Compliance

a. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance, the following guidelines shall be followed:
   (1) Pursuant to 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by 401 KAR 50:055, Section 1.
   (2) All the air pollution control systems shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers. A log shall be kept of all routine and nonroutine maintenance performed on each control device. Daily observations are required during daylight hours of all operations, control equipment and any visible emissions to determine whether conditions appear to be either normal or abnormal. If the operations, controls and/or emissions appear to be abnormal, the permittee must then comply with the requirements of Section C – General Conditions, 3.a.(2), of this permit.
   (3) A log of the monthly raw material consumption and monthly production rates shall be kept available at the facility. Compliance with the emission limits may be demonstrated by computer program, spread sheets, calculations or performance tests as may be specified by the Division [401 KAR 50:055, Section 2].

b. Pursuant to 401 KAR 52:040, Section 19, the permittee shall certify compliance with the terms and conditions contained in this permit by January 30th of each year, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Regional Office listed on the front of this permit in accordance with the following requirements:
   (1) Identification of the term or condition;
   (2) Compliance status of each term or condition of the permit;
   (3) Whether compliance was continuous or intermittent;
   (4) The method used for determining the compliance status for the source, currently and over the reporting period, and
   (5) For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION C - GENERAL CONDITIONS (CONTINUED)

(6) The certification shall be postmarked by January 30th of each year. Annual compliance certifications shall be mailed to the following addresses:

Division for Air Quality	Division for Air Quality
Owensboro Regional Office	Central Files
3032 Alvey Park Dr. W., Suite 700	200 Fair Oaks Lane, 1st Floor
Owensboro, KY 42303	Frankfort, KY 40601

c. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all:
(1) Applicable requirements that are included and specifically identified in this permit; or
(2) Non-applicable requirements expressly identified in this permit [401 KAR 52:040, Section 11].

7. Construction Requirements:

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, EP-1 to EP-34 and fugitive emissions in accordance with the terms and conditions of this permit.

a. Pursuant to 401 KAR 52:040, Section 12(3), unless construction is commenced on or before 18 months after the date of issuance of this permit, or if construction is commenced and then stopped for any consecutive period of 18 months or more, or is not completed within a reasonable timeframe, then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon a written request, the Cabinet may extend these time periods if the source shows good cause.

b. Pursuant to 401 KAR 52:040, Section 12(4)(a) and 401 KAR 59:005, General provisions, Section 3(1), within 30 days following construction commencement, within 15 days following start-up and attainment of maximum production rate, or within 15 days following the issuance date of this permit, whichever is later, the owner and/or operator of the affected facilities specified on this permit shall furnish to the Regional Office listed on the front of this permit, with a copy to the Division's Frankfort Central Office, the following:
(1) Date when construction commenced.
(2) Start-up date of each of the affected facilities listed on this permit.
(3) Date when maximum production rate was achieved.

c. (1) Pursuant to 401 KAR 59:005, General provisions, Section 2(1), this permit shall allow time for the initial start-up, operation and performance testing and/or compliance demonstration of the affected facilities listed herein. However, within 60 days after achieving the maximum production rate at which the affected facilities will be operated, but not later than 180 days after initial start-up of such facilities, the owner or operator shall conduct performance tests and furnish the Division’s Frankfort office a written report of the results of such performance tests.

SECTION C - GENERAL CONDITIONS (CONTINUED)

(2) Pursuant to 401 KAR 59:005, General provisions, Section 3(1)(b), unless notification and justification to the contrary are received by this Division, the date of achieving the maximum production rate at which the affected facilities will be operated shall be deemed to be 30 days after initial start-up.

(3) Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least Thirty (30) days prior to the test.

(4) Pursuant to 401 KAR 50:045 Section 5 in order to demonstrate that a source is capable of complying with a standard at all times, a performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive this requirement on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.

d. Operation of the affected facilities authorized by this permit shall not commence until compliance with applicable standards specified herein has been demonstrated in accordance with the requirements of 401 KAR 52:040, Section 12(4)(b). Until compliance is demonstrated, the source may only operate for the purpose of demonstrating compliance.

SECTION D - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:040, Section 6. Although these activities are designated as insignificant the permittee must comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

Description	Generally Applicable Regulation
1. Diesel Fuel Tank with 10,000 gallons (100,000 gallons/yr)	401 KAR 63:020
2. Ammonia Tank with up to 60,000 gallons (233,000,000 gallons/yr)	401 KAR 63:020
3. Argon Tank with up to 75,000 gallons (9,040,000 gallons/yr)	None
4. Storage Vessels with Capacity: <10,567 gallons with a vapor pressure of 1.5 psia or less at storage temperature. • Sulfuric Acid storage tank • Sodium Hydroxide storage tank • Selexol storage tank • Water storage tanks • Brine Maker storage tank • Phosphoric Acid container (55 gal drum) • Sodium Bromide container (55 gal drum) • Sodium Tolyltriazole container (55 gal drum) • Non-Ionic Surfactant container (55 gal drum) • Non-Ionic Alkyl Polyglycoside container (55 gal drum) • Sodium Tripolyphosphate container (55 gal drum) • Carbohydrazine container (55 gal drum) • Glycerol container (55 gal drum) • Dimethyl-Dioctyl-Ammonium chloride container (55 gal drum) • Sodium Nitrite container (55 gal drum) • Inorganic Salt container (55 gal drum) • Cyclohexylamine container (55 gal drum) • Monoethanolamine container (55 gal drum) • Methoxypropylamine container (55 gal drum) • Formaldehyde container (55 gal drum)	401 KAR 63:020
5. Fuel use: space heaters fueled by natural gas or propane	None

SECTION D - INSIGNIFICANT ACTIVITIES (CONTINUED)

Description	Generally Applicable Regulation
6. Emissions from a laboratory	None
7. Equipment used for hydraulic or hydrostatic testing	None
8. Brazing, soldering or welding equipment	None
9. Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	None
10. IC Engine for Emergency Generator with capacity less than 500 hp. (Intermittent and infrequent use for plant housekeeping and upkeep activities)	None
11. Building HVAC Filter System Exhaust • Electrical Control Rooms (5) • Pumps and Heat Exchanger Enclosure @ gasifier • Pumps and Heat Exchanger Enclosure @ Selexol • Compressor Room • Urea Storage Room • Water Treatment Facility	None